SUBJECT INDEX

Advection and plankton 35–7
Assimilation numbers 21
Atlantic *see also* North Atlantic, Labrador Coast
  salinity anomaly 116–21
    east 126, 127

Chile, coastal upwelling 1–38
Coastal upwelling, Chile 1–38
  biological data 16–29
  characteristics, nearshore 30–3
  charts 6
  event comparison 33–5
  measurements 5, 7–9
    biological 7–9
  phytoplankton growth 19
  plankton and advection 35–7
  productivity 20
  protein, carbohydrate and chlorophyll 18, 19
  study site 5
  surface water features 11
  temporal variability 4
  temperature–salinity 10, 12–14
  vertical density gradient 15
  zooplankton 22–9
Copepods *see also Neocalanus* spp
  abundance 282
  development and growth 275–91
  life history analysis 293–312
  molt cycle 277, 279, 280, 286
  stage duration 276, 277
  stage estimates 283–6
  tooth development 278

Fylla Bank, temperature–salinity 113

Great Salinity Anomaly *see* Salinity
Greenland, temperature–salinity 110, 111
Greenland Sea
  salt deficit 142, 143
  temperature–salinity anomaly 136–8

Helix 180 *see also* Neutral helices
Hydrographic status 83–100
  monthly time stations 85
  temperatures
    1900–09 86
    1910–19 87
    1920–29 88
    1930–39 89
    1940–49 90
    1950–54 91
    1955–59 92
    1960–64 93
    1965 96, 97
    1965–69 94
    1967 98
    1970–74 95

International Decade of Ocean Exploration (IDOE) 3

Labrador Coast
  salinity distribution 132, 133
  salt deficit 140
  temperature–salinity anomalies 114–16, 130
  time series stations 129
Life history analysis
  copepods 293–312
  methods 294, 295

Marine snow 41–75
  abundance 46, 47
  aggregation 65–71
  breakdown 71–4
  carbon–nitrogen ratio 51, 52
  chemical features 60, 61
  chlorophyll *a* 58, 59
  composition 56, 57
  definition 41
  Gulf Stream 49
  microscopy 50, 53, 54
  organisms associated 42, 43, 55–9
  origins 61, 62
  Panama basin 49
  particle dynamics 63
  sampling 44–6
  sinking 72, 73
  studies 43, 44
  volume 48
  zooplankton 62–5
Model, layered ocean, reduced gravity 189–91
  neutral surfaces 212–15

Neocalanus flemingeri 223–71
  abundance estimates 297
  anatomy 231–46
    female 232–42
    male 242–6
  C5 comparison, *N. plumchrus* 257–69
  cephalosome 235
    prosome, C5 259
  denticles 237
  depth distribution 298
    female 301
  description 232–4

distribution, life stages 306
growth and development 281–9
life history analysis 295–9
limbs 236–9, 244, 245
molt rate 287–9
mouth parts 243
nomenclature 224, 225
ovarian stages 296, 300
reproductive organs 239–42
sampling 227
sources 228, 229
synonymy 232
Neocalanus plumchrus
abundance 299, 302, 304, 305, 311
anatomy 247–69
female 247–53
male 253–69
C5 decline 310
depth distribution 303
description 247
growth and development 281–9
life history analysis 299–306
limbs 251, 255
molt rate 287–9
N. flemingeri differentiation 248
C5 comparison 257–69
limbs 263, 264
mandibular tooth 265, 266
setules 262, 269
urosome 260
population progress 286
reproductive organs 250, 251, 254
size 249, 256
Neutral helices
density 176
pitch quantification 168–77
sketch 173
Neutral surface
ambiguity 174
depth 167
layered models 212–15
mathematically-defined 162–8
pressure and temperature 166, 175, 176, 178, 179
Neutral surface potential vorticity 185–221
beta-spiral 204–7
conservation equations 211, 212
conservation statements 207–12
continuity 195, 196
cross-section 201
dianeutral velocity 191–4
diapycnal velocity 191–4
equations 196, 197
lateral mixing 187
reduced gravity 189–91
thermal wind 194, 195
vertical velocity 191–4
Neutral trajectories
constraints 158
helical nature 153–83
path dependence 153
demonstration 156–8
proof 156
path independence 158–62
temperature and pressure 161
variation hN^2 197–202
North Atlantic
fronts and watermasses 106
salinity anomaly 116–24
English Channel 124
Sørkapp section 131, 134–6
salt deficiency 141, 142
sea level pressure 109
transport scheme 112

Potential density surfaces, conservation statements 207–12

Salinity
anomalies 103–49
anomaly signal 117
variation 128
eastern Atlantic 108
minima 1908–10 144–6
sea ice 146
salt deficit 138
time series, North Atlantic 105
Salt deficit
budgeting 138–43
salinity anomaly 143

Vorticity *see also* Neutral surface
isopycnal potential 203

Zooplankton, coastal upwelling, Chile 22–9
abundance 23, 24
copepod fecundity 27–9
copepod gut 25–7